

20. (Amended) A macroporous ceramic having pores of at least .05 μ m and of substantially uniform diameter uniformly dispersed therein.

21. (Amended) The macroporous ceramic of claim 20 in which said pores are in the range of 0.5 μ m to 5 μ m.

23. (Amended) The macroporous ceramic of claim 20 in which said metal oxide is selected from the group consisting of titanium dioxide, zirconium dioxide and silicon dioxide.

112 scope
enlarged
range must be
0.05 μ m to 5mm
p. 6
(last line)

REMARKS

Referring first to the rejections based on 35 U. S. C. § 112 first paragraph, the rejections are believed to be overcome by the amendments wherein the claims require a pore size of at least .05 μ m (for support, see page 6, line 23 of the specification), and wherein claim 23 has been amended to use Markush claim language. Attached hereto is a marked-up version of the changes made to the claims by the current amendment, captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

The rejection of the claims as unpatentable, under 35 U. S. C. § 103(a), is respectfully traversed. The Examiner contends that Klopries, et al. (patent No. 5,668,077) teaches a macroporous ceramic support of alumina "which would appear to have distributed micropores therein", referring to the claims. However, Klopries et al., actually teach that the catalyst support "has as few micropores and mesopores as possible." (column 3, line 5).

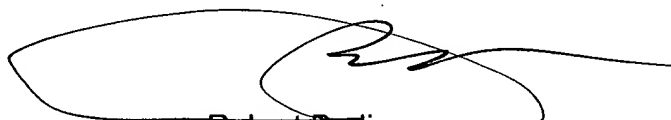
Moreover, Klopries et al. do not discuss uniformity of the pore structure (whereas the present specification, on page 30, describes the results obtained as having a well-defined pore size difference of about 20%). The claims call for the pores to be at least .05 μ m and to be of substantially uniform diameter uniformly dispersed in the ceramic. While Klopries, et al. state that silver particles (which are distributed in the pores of his ceramic support) are uniformly distributed on the surface of the support (column 3, line 24), presumably the surface of the pores, there is nothing in the references which refers to the uniformity of the diameter of the pores.

Van T. Teen, et al., patent No. 4,981,590, is cited for teaching a macroporous ceramic support with a microporous layer. The reference actually supports the novelty of a ceramic having uniformly dispersed macropores of uniform diameter. Thus the reference describes macroporous ceramic materials (suitable as a micro filtration support) as normally exhibiting structural irregularities which prevent the formation of a uniform high performance microfilter (column 1, lines 29-33). It does describe the micro pores as having 99% of its pore volume consisting of pores with a diameter of less than 1:15 (*sic*, should be 1.15) times the average diameter, and 99.9% of the pore volume consisting of pores with a diameter of less than 1.2 times the average diameter. It makes no contention of that sort with respect to the macro pores.

The Hungarian and Russian abstracts refer to ceramics having very high pore sizes. The Hungarian abstract refers to 50-300 micrometers. The Russian abstract appears to refer to "few tens of .mu." which also would appear to be a reference to micrometers. There is no suggestion of the claimed structure

Applicants believe the claims are in condition for allowance and respectfully solicit a Notice of Allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert Berliner', with a large, sweeping loop on the left side and a horizontal line extending to the right.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

20. (Amended) A macroporous ceramic having [micropores] pores of at least .05 μ m and of substantially uniform diameter uniformly dispersed therein.
21. (Amended) The macroporous ceramic of claim 20 in which said pores are in the range of 0.5 μ m to 5 μ m [micrometers].
23. (Amended) The macroporous ceramic of claim 20 in which said metal oxide is selected from the group consisting of titanium dioxide, zirconium dioxide and silicon dioxide.